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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/032,022	04/15/96	BURKE	111940

A3M1/1015  
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EXAMINER
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ART UNIT	PAPER NUMBER
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DATE MAILED:

10/15/96

This is a communication from the examiner in charge of your application.  
**COMMISSIONER OF PATENTS AND TRADEMARKS**

## OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 8/2/96
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claims

- ☒ Claim(s) 1 to 14 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1 to 14 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received:

- ☐
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- ☒ Notice of Reference Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

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1. Claims 1 to 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, the claim is confusingly worded. Applicant's invention appears to be directed to a two-stage anaerobic digestion process with an intermediate settling stage. However, as written, claim 1 could be interpreted to have only one anaerobic stage. Therefore, the claim should more clearly indicate that there is a first anaerobic stage followed by a second anaerobic stage with solid recycling from the second stage to the first. In claim 10, the term "adversely affecting" is vague and indefinite because it does not permit one skilled in the art to know what the invention consists of or comprises. The remaining claims depend from a rejected base claim.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 to 10, 13 and 14 are rejected under 35

U.S.C. 103(a) as being unpatentable over Molin et al. in view of Burke. Molin et al. discloses an anaerobic treatment process having a first anaerobic stage wherein hydrolysis occurs, a settling stage, followed by an anaerobic methane generation stage (col. 1 lines 6-12, col. 2 lines 14-62 and Fig. 1). Sludge from the methane generation stage is eventually recycled to the first anaerobic stage after additional treatment. The claims differ from Molin et al. in reciting the recycle of anaerobic sludge to the first anaerobic stage, the type of settling used, and the duration of treatment.

Burke discloses an anaerobic digestion process wherein the waste, after anaerobic digestion, undergoes air flotation separation with solid being returned to the anaerobic digestion stage (col. 4 lines 4-19). The anaerobic reactor can be of any type known in the art, including fixed film and carrier-assisted (col. 4 lines 31-56 and col. 5 lines 12-25).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to return solids to the first anaerobic zone directly from the second anaerobic zone because Burke teaches the advantages of returning anaerobic sludge. The length of time the waste is digested is, in the absence of unexpected results, a matter of engineering choice based upon the design parameters of the system, the type of wastes treated and the desired results.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Molin et al. in view of Burke as applied to claims 1 to 10, 13 and 14 above, and further in view of Fisk ('803). The claim differs from Molin et al. and Burke in reciting the addition of a dilute influent stream.

Fisk ('803) discloses an anaerobic digestion process wherein decanted effluent liquid from a centrifuge is recycled to an anaerobic digester (col. 3 lines 47-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to dilute the waste with water, as taught by Fisk ('803), in the Molin et al.-Burke

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process because the added water aids in the anaerobic digestion of the wastes.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Molin et al. in view of Burke as applied to claims 1 to 10, 13 and 14 above, and further in view of Dague et al. The claim differs from Molin et al. and Burke in reciting two different temperatures for the anaerobic stages.

Dague et al. discloses a two-stage anaerobic digestion process wherein the two stages are operated at different temperatures (col. 5 lines 17-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use two different temperatures in the two anaerobic stages of the Molin et al.-Burke process as taught by Dague et al. because the use of two different temperatures is known in the art to aid in the anaerobic digestion of wastes.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fisk ('394) is a division of Fisk ('803). Ghosh et al., Andersson et al., Cohen,

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Hack et al. and Kubler all disclose two-stage anaerobic digestion of wastes, some with an intermediate settling stage.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theodore M. Green whose telephone number is (703) 305-6430. The examiner can normally be reached on Monday-Thursday from 7:30 AM-5:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman, can be reached on (703) 308-3837. The fax phone number for this Group is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

TMGreen  
October 8, 1996

  
NEIL MCCARTHY  
PRIMARY EXAMINER  
GROUP 1300